PATENT
Customer No. 22,852
Attorney Docket No. 07040.0244

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	
Massimo BRUSAROSCO et al.	Group Art Unit: 3663
Application No.: 10/563,370	Examiner: Tuan C. TO
Filed: May 26, 2006	Confirmation No.: 4087
For: METHOD AND SYSTEM FOR DETERMINING A TYRE LOAD DURING THE RUNNING OF A MOTOR VEHICLE	

MAIL STOP: AF **VIA EFS-WEB**
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

PRE-APPEAL BRIEF REQUEST FOR REVIEW

In reply to the Office Action mailed March 12, 2010 ("Office Action"), and in conjunction with a Notice of Appeal and fee payment filed concurrently herewith, Applicants respectfully request a pre-appeal brief review of this application.

I. Claim Rejection under 35 U.S.C. § 103(a) based on Wilson and Frey

Claims 48, 49, 51-59, and 62-66 were rejected under 35 U.S.C. § 103(a) based on U.S. Pat. App. Pub. No. US 2003/0058118 to Wilson ("Wilson") in combination with U.S. Patent No. 5,749,984 to Frey et al. ("Frey"). Office Action at 2. Claims 48 and 62 are the only independent claims included in this claim rejection. Applicants respectfully submit that independent claims 48 and 62 are patentably distinguishable from Wilson and Frey for at least the reasons outlined in Applicants' Response to Final Office Action filed December 17, 2009 ("previous response") as supplemented herein.

Independent claim 48 is directed to a method for determining a load exerted on a tyre, the method including, *inter alia*, "acquiring a first signal comprising a first signal

portion representative of a radial deformation; measuring an *amplitude* of the radial deformation in the first signal portion; . . . and deriving the load exerted on the tyre from the *amplitude*, [a] rotation speed, and [an] inflation pressure; . . . wherein measuring the *amplitude* of the radial deformation comprises measuring a difference between: a maximum value of the first signal in the first signal portion, and a minimum value of the first signal in the first signal portion." (Emphasis added). Neither Wilson nor Frey discloses at least this subject matter recited in independent claim 48, and thus, this subject matter is not *prima facie* obvious based on those references. Although independent claim 62 differs in scope with respect to independent claim 48, it recites similar subject matter and is distinguishable from Wilson and Frey for similar reasons.

The rejection statement asserts that "Wilson . . . teaches measuring an amplitude of the radial deformation in the first signal portion (see figure 5, paragraphs 0068-0071, the radial accelerometer 92 senses an outward centrifugal radial acceleration; see paragraph 0088, the peakToPeakAcceleration is defined as the difference between the accelerations off-contact acceleration and the on-contact)." Office Action at 3. The rejection statement further asserts that Wilson discloses "deriving the load exerted on the tire from the amplitude (see abstract)." Id.

Applicants respectfully submit that the rejection statement has misinterpreted Wilson. Wilson does not disclose measuring an *amplitude* of a first signal portion representative of a radial deformation and *deriving the load exerted on the tire* from the *amplitude*. Rather, Wilson discloses merely detecting deflection points of signals representative of acceleration of the rotating tire, and determining *elapsed time* between such deflection points.

In contrast to Applicants' claimed method, which measures amplitude of a radial deformation in a signal, and derives the load exerted on a tire from the amplitude, Wilson

discloses determining load based on tread width and contact length of the area of applied pressure between the tire and the surface on which the tire is rolling. Wilson at ¶ [0178]. Wilson discloses determining the contact length by determining the length of a chord of a circle defined by two deflection points at either end of the portion of the tire deformed along the point of contact with the surface on which the tire is rolling. Id. at ¶¶ [0161]-[0164]. Wilson does not disclose, however, that the chord length is determined based on measuring an amplitude of radial deformation of the tire. Rather, the cord length is determined based on the geometry of the un-deformed tire, the rotation rate of the tire, and the time measured between deflections of the tire as it rotates. Id.; see also id. at ¶ [0178]-[0179] (showing how load is calculated according to Wilson's method).

Thus, rather than deriving the load exerted on a tire from the amplitude of a radial deformation, Wilson discloses determining load based on tread width and contact length of the area of applied pressure between the tire and the surface on which the tire is rolling. Further, Wilson discloses determining the contact length by determining the length of a chord of a circle defined by two deflection points at either end of the portion of the tire deformed along the point of contact with the surface on which the tire is rolling. In particular, the chord length is determined based on the elapsed time between the two detected deflection points. Id. at ¶¶ [0161]-[0164] and [0178]-[0179].

Regarding the rejection statement's assertion that the Abstract of Wilson discloses "deriving the load exerted on the tire from the amplitude," Wilson's Abstract does not support this assertion. Rather, the Abstract indicates, in pertinent part, that "[t]he deflection points delimiting the contact region are determined at the points where the sensed acceleration transitions between the high and low values." Id., Abstract. Thus, contrary to the rejection statement's assertion, the Abstract does not disclose "deriving the load exerted on the tire from the amplitude."

In the "Response to Arguments" section, the Office Action asserts that "Wilson discloses the high amplitude of acceleration and the low amplitude of acceleration, and the difference between such the high and low value defines the radial deformation of the tire." Office Action at 7. Even if for the sake of argument this assertion were accurate (a notion with which Applicants do not necessarily agree), this does not result in Wilson disclosing that the *load* on the tire is derived from the *amplitude*. Although Wilson discloses using an accelerometer to detect deformation of the tire, as shown in Fig. 5, Wilson does not derive the load exerted on the tire based on the *amplitude* of the deformation. Rather, Wilson determines the load exerted on the tire via determining the contact length, which, in turn, is determined based on the *elapsed time between deflection points* and the rate of rotation of the tire. For at least this reason, Wilson fails to disclose deriving the load exerted on a tire from *the amplitude of radial deformation* of the tire.

Regarding the rejection statement's reference to Wilson's disclosure of "peakToPeakAcceleration" at paragraphs [0087] and [0088] (Office Action at 3), Wilson does not use this value to derive the load exerted on the tire. Rather, Wilson uses this value "to determine that the accelerometer and other electronics are working properly . . ." Wilson at ¶¶ [0087]-[0088]. Thus, although Wilson discloses determining the difference between off-contact acceleration and on-contact acceleration, Wilson does not use this difference to derive the load exerted on the tire.

Simply stated, Wilson discloses determining load based on tread width and contact length of the area of applied pressure between the tire and the surface on which the tire is rolling (i.e., load = contact area multiplied by pressure). Wilson discloses determining the contact length by determining the length of a chord of a circle defined by two deflection points (using the time elapsed between the two deflection points) at either end of the portion of the tire deformed along the point of contact with the surface on which the tire is

rolling. Id. at ¶¶ [0161]-[0164]. As noted at in Applicants' specification at p. 4, lines 1-9, Wilson's method suffers from a number of drawbacks, including the fact that the area of contact between a tire and the surface on which it rolls is not a rectangle, resulting in inherent inaccuracies involved with Wilson's method of estimating load by multiplying a rectangular contact area by the pressure. Moreover, because Wilson's method relies on estimating load based the contact area multiplied by the pressure, it would serve no purpose to determine the amplitude of radial deformation of the tire for the purpose of estimating the load on the tire, because such information cannot be incorporated into Wilson's method of estimating load.

For at least the reasons outlined above and those presented in the previous response, the § 103(a) rejection of independent claims 48 and 62, and dependent claims 49, 51-59, and 63-66, based on Wilson and Frey is improper and should be withdrawn.

II. Conclusion

For at least the reasons set forth above, Applicants respectfully request allowance of claims 48, 49, and 51-66 (claims 60 and 61 having already been indicated as reciting allowable subject matter (Office Action at 6)).

Please grant any extensions of time required to enter this Pre-Appeal Brief Request and charge any additional required fees to our Deposit Account 06-0916.

Respectfully submitted,
FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: September 13, 2010

By: _____
Christopher T. Kent
Reg. No. 48,216